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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,448	03/04/2004	Michael Tobin	41PR-133546 (GEN-0350)	2447
23413	7590	08/24/2005	EXAMINER	
CANTOR COLBURN, LLP			DONOVAN, LINCOLN D	
55 GRIFFIN ROAD SOUTH			ART UNIT	
BLOOMFIELD, CT 06002			PAPER NUMBER	

2832

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/708,448

Applicant(s)

TOBIN ET AL.

Examiner

Lincoln Donovan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aihara et al. [US 6,480,082] in view of Castonguay et al. [US 4,884,048] and Kaneko et al. [US 6,084,912].

Regarding claims 1, 3-4, 6, 12, 18-19 and 21-22, Aihara et al. disclose a double break apparatus for interrupting an electrical short circuit current in an electrical distribution system [figures 1-2] comprising:

- a housing [6];
- a plurality of separable conduction paths [figure 14];
- an operating system [3, figure 1] in operable communication with the plurality of conduction paths [figure 14, column 5, lines 49-67];
- an electronic trip unit [57] in signal communication with the plurality of conduction paths and in operable communication with the operating mechanism [column 9, lines 11-56];
- an electromagnetic trip unit [figure 3] in communication with the operating mechanism [column 8, lines 50-67].

Aihara et al. disclose everything claimed except the explicit showing of the electronic trip unit being in signal communication with each individual phase and each electromagnetic trip unit and the electromagnetic trip unit being responsive within the first half-cycle and the electronic trip unit being responsive to a second multi-cycle waveform of the short circuit current.

Castonguay et al. discloses a multiphase breaker [10] having a current transformer [37] for each of the phases.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the multi current transformer design of Castonguay et al. with Aihara et al., for the purpose of providing improved trip response.

Kaneko et al. disclose a trip device for a circuit breaker [figure 1] having an electromagnetic trip unit being responsive within the first half-cycle and the electronic trip unit being responsive to a second multi-cycle waveform of the short circuit current [figures 5-7, column 5, line 49-column 6, line 25].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tripping technique of Kaneko et al. with that of Aihara et al., as modified, in order to reduce nuisance tripping yet retain a quick response time.

Regarding claim 2, Aihara et al. disclose the electromagnetic trip unit including an electromagnetic actuator disposed at each of the plurality of phases [figure 4b].

Regarding claims 5 and 20, Aihara et al. disclose the electromagnetic trip unit comprising a magnetic yoke [51] and armature [52].

Regarding claim 7, Aihara et al. discloses the conduction paths comprising a blow open contact arm structure [column 5, lines 8-48].

Regarding claim 8, Aihara et al. disclose everything claimed except the specific operation response of the blow open contact arm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the magnetic response time would have been virtually instantaneous, or within half a wave cycle, since the effect of the current on the arms provides the activating force.

Regarding claim 9, Aihara et al. disclose the blow open contact arm being a rotary contact bridge [figure 1].

Regarding claim 10, Aihara et al. disclose a conduction path in each of three phases within the housing [figure 14-15].

Regarding claims 11 and 23, Aihara et al. disclose the electromagnetic trip unit having a trip bar [3] that is common to all of the phases and each phase having a separate armature disposed thereat [column 8, lines 50-67].

Regarding claims 13-17, the claimed method steps would have been necessitated by the product structure.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

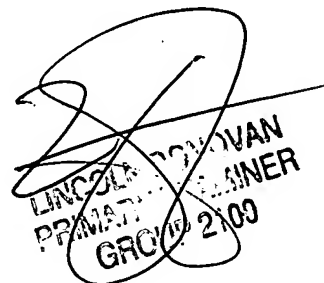
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ldd

  
LINCOLN J. JOHNSON  
PATENT EXAMINER  
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